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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/059,144 | 01/31/2002 | Takao Yonehara | 00862.022498 | 5995 |

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| EXAMINER | |
|---|---|
| KEBEDE, BROOK | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2823 | |

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/059,144 | YONEHARA ET AL. | |
| | Examiner | Art Unit | |
| | Brook Kebede | 2823 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *04 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6,8-10 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,10 and 13* is/are rejected.

7)☒ Claim(s) *8 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/19/02, 5/26/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-6, 10, and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,677,183 in view of Omi et al. JP/11-317509.

Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons:

Re claim 1, the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1 and 15 of U.S. Patent No. 6,677,183. The limitations include a method of manufacturing a thin-film semiconductor device, comprising: the step of preparing a member having a semiconductor film with a semiconductor element semiconductor integrated circuit on a separation layer (see Claim 1, lines 1-5); the separation step of separating the member at the separation layer by a pressure of a fluid (see Claim 1, lines 8-13); and the chip

forming step after the separation step, forming the semiconductor film into chips (see Claim 15, lines 1-2).

However, the limitation "applying a pressure of a fluid to side surface of the separation layer " is not particularly claimed in U.S. Patent No. 6,677,183.

Omi et al. (JP/11-317509) disclose applying a pressure fluid, such as water jet, to the side surface of separation layer in order to separate the layers of the device without damaging the surface (see the English translation that provided by the Office in Paragraph [0081] to [0084]) .

Both U.S. Patent 6,677,183, in the claimed limitation, and Omi et al. (JP/11-317509) teachings are directed to bonding the semiconductor member and separating. Therefore, the claims of U.S. Patent 6,677,183 and the teaching Omi et al. (JP/11-317509) are analogous.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant(s) claimed invention was made to provide U.S. Patent 6,677,183 with applying a pressure of a fluid to side surface of the separation layer as taught by Omi et al. (JP/11-317509) in order to separate the layers of the device without damaging the surface.

Re claim 2, as applied to claim 1 above, the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1 and 15 of U.S. Patent No. 6,677,183. In addition, the limitations wherein the member is obtained by forming a porous layer on a surface of a semiconductor substrate, forming the semiconductor film on a surface of the porous layer, and then forming the semiconductor element and/or semiconductor integrated circuit is clamed in Claim 3 of U.S. Patent No. 6,677,183 (see Claim 3, lines 1-5).

Re claim 3, as applied to claims 1 and 2 above, the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1, 3, and 15 of

U.S. Patent No. 6,677,183. Further the limitation, wherein the semiconductor film is formed on the surface of the porous layer after forming a protective film on inner walls of pores in the porous layer is claimed in Claim 4 of U.S. Patent No. 6,677,183 (see Claim 4, lines 1-6).

Re claim 4, as applied to claim 1 above, the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of the instant application is essentially the same as the claimed limitations of claims 1 and 15 of U.S. Patent No. 6,677,183. Furthermore, the limitation, wherein the member is obtained by forming the semiconductor element and/or semiconductor integrated circuit on a surface of a semiconductor substrate and implanting ions from the surface side to a predetermined depth to form the separation layer is claimed in Claim 18 of U.S. Patent No. 6,677,183 (see Claim 18, lines 12-16).

Re claim 5, as applied to claims 1 and 2 above the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1, 3, and 15 of U.S. Patent No. 6,677,183. Further the limitation, wherein the semiconductor substrate is a single-crystal silicon substrate or a compound semiconductor substrate is claimed in Claim 5 of U.S. Patent No. 6,677,183 (see Claim 5, lines 1-3).

Re claim 6, as applied to claims 1 and 4 above, the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1, 15 and 18 of U.S. Patent No. 6,677,183. In addition, the limitation wherein the semiconductor substrate is a single-crystal silicon substrate or a compound semiconductor substrate is claimed in Claim 5 of U.S. Patent No. 6,677,183 (see Claim 5, lines 1-3).

Re claims 10 and 13 the scope of the claimed limitation of the instant application is essentially the same as the claimed limitations of claims 1 and 15 of U.S. Patent No. 6,677,183.

The limitations include a method of manufacturing a thin-film semiconductor device, comprising: the step of preparing a member having a semiconductor film with a semiconductor element and/or semiconductor integrated circuit on a separation layer (see Claim 1, lines 8-13); the chip forming step of forming the member into chips in desired regions; and the separation step of, after the chip forming step, separating the member at the separation layer (see Claim 15, lines 1-2).

However, the limitation "a bonding step of bonding the member to support member" is not particularly is claimed in U.S. Patent No. 6,677,183.

Omi et al. (JP/11-317509) a bonding step of bonding the member to support member (see Drawing 8) in order bonded semiconductor base substrate or another composite member, so that separation does not occur before the separation process, and separation is securely performed in the separation process.

Both U.S. Patent 6,677,183, in the claimed limitation, and Omi et al. (JP/11-317509) teachings are directed to bonding the semiconductor member and separating. Therefore, the claims of U.S. Patent 6,677,183 and the teaching Omi et al. (JP/11-317509) are analogous.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant(s) claimed invention was made to provide U.S. Patent 6,677,183 with a bonding step of bonding the member to support member as taught by Omi et al. (JP/11-317509) in order to separate the layers of the device without damaging the surface.

Therefore, the conflicting claims are not patentably distinct from each other.

***Allowable Subject Matter***

3. Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

4. Applicants' arguments with respect to claims 1-6, 10, and 13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Ohmi et al. (US/6,342,433) also disclose similar inventive subject matter.

6. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Correspondence***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BK
August 19, 2004

George Fourson
Primary Examiner